

**ASSESSMENT ON X - BRACING SYSTEM AND V - BRACING
SYSTEM OF STEEL BUILDING.**

By

NURUL IWANI BINTI ROSLAN

Report is submitted as
the requirement for the degree of
Bachelor Engineering (Hons.) (Civil)

**UNIVERSITI TEKNOLOGI MARA
APRIL 2007**

DECLARATION

I Nurul Iwani binti Roslan , 2003479832 confirm that the work is my own and that appropriate credit has been given where reference has been made to the work of others.


(_____)
8th of April 2006

ACKNOWLEDGEMENT

First, I give thanks to Allah, The Most Gracious and The Most Merciful the Dispenser of Grace, without whom I would not have had the ability or the opportunity to attempt this thesis. I thank my advisor, En. Syahrul Fithry bin Senin, for the priceless mentoring he has given me during this research, for answering my questions and offering his guidance these past semesters and improving the quality of my work. My parents, Roslan bin Omar and Shabak'yah binti Rejab, deserve ample thanks for the sacrifices they have made on my education and the patience they have shown me throughout my life. Lastly, I thank my friends, whose helping and supporting me in order to attempt this thesis. Thank you.

ABSTRACT

This study focused on the comparing the lateral stiffness of several frames provided by concentrically braced frames (inverted V bracing system and X bracing system using available software in the market. This study is limited to a rigid frame connection only, performing two dimensional analysis, having uniform sections and isotropic materials. At the end of this study, the results finally conclude the effectiveness of the bracing system (inverted V bracing system and X bracing system), lateral stiffness of the analysed frames, production of regression analysis equation to predict the displacement for specified section and range of size.

TABLE OF CONTENT

Content	Page	
DECLARATION	i	
ACKNOWLEDGEMENT	ii	
TABLE OF CONTENT	iii	
LIST OF FIGURES	vi	
LIST OF TABLES	x	
LIST OF SYMBOLS	xi	
ABSTRACT	xii	
CHAPTER 1	INTRODUCTION	1
1.1	Background	1
1.2	Problem statement	3
1.3	Objectives	3
1.4	Scope of the Study	4
CHAPTER 2	LITERATURE REVIEW	5
2.1	Overview	5
2.2	P Delta Effects	6
2.3	First order and Second Order Analysis	7
2.4	Methods Accounting P Delta Effects	8